Array Practice Set –II

1. Given an array arr[] of n integers, construct a Product Array prod[] (of same size) such that prod[i] is equal to the product of all the elements of arr[] except arr[i]. Solve it without division operator and in O(n).
Example :
arr[] = {10, 3, 5, 6, 2}
prod[] = {180, 600, 360, 300, 900}

2. https://practice.geeksforgeeks.org/problems/minimum-steps-to-get-desired-array/0

3. https://practice.geeksforgeeks.org/problems/find-second-largest-element/0

4. Given n size unsorted array, find its mean and median.
Mean of an array = (sum of all elements) /(number of elements)
Median of a sorted array of size n is defined as below :
It is middle element when n is odd and average of middle two elements when n is even.

5. Given a square matrix, turn it by 90 degrees in anti-clockwise direction without using any extra space.

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Input
 1  2  3
 4  5  6
 7  8  9
Output:
 3  6  9
 2  5  8
 1  4  7

Input:
 1  2  3  4
 5  6  7  8
 9 10 11 12
13 14 15 16
Output:
 4  8 12 16
 3  7 11 15
 2  6 10 14
 1  5  9 13
```

6. Given an array of size n where all elements are distinct and in range from 0 to n-1, change contents of arr[] so that arr[i] = j is changed to arr[j] = i.

Example 1:
Input: arr[] = {1, 3, 0, 2};
Output: arr[] = {2, 0, 3, 1};
Explanation for the above output.
Since arr[0] is 1, arr[1] is changed to 0
Since arr[1] is 3, arr[3] is changed to 1

Since arr[2] is 0, arr[0] is changed to 2
Since arr[3] is 2, arr[2] is changed to 3

Example 2:
Input: arr[] = {2, 0, 1, 4, 5, 3};
Output: arr[] = {1, 2, 0, 5, 3, 4};

Example 3:
Input: arr[] = {0, 1, 2, 3};
Output: arr[] = {0, 1, 2, 3};

Example 4:
Input: arr[] = {3, 2, 1, 0};
Output: arr[] = {3, 2, 1, 0};

7. Given an array of integers, update every element with multiplication of previous and next elements with following exceptions.
a) First element is replaced by multiplication of first and second.
b) Last element is replaced by multiplication of last and second last.

Example:

Input: arr[] = {2, 3, 4, 5, 6}
Output: arr[] = {6, 8, 15, 24, 30}

// We get the above output using following
// arr[] = {2*3, 2*4, 3*5, 4*6, 5*6}

8. https://leetcode.com/problems/best-time-to-buy-and-sell-stock/

9. https://leetcode.com/problems/sort-colors/

10. https://leetcode.com/problems/x-of-a-kind-in-a-deck-of-cards/